

TRANSMITTAL OF FORMAL DRAWINGS

Docket No.
JHUC-P047740

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In R Application Of: Beachy, et al.

APR 04 2002

U.S. PATENT & TRADEMARK OFFICE

Serial No.

09/708,964

Filing Date

November 8, 2000

Class No.

N/A

Examiner

B. Badio

Unit

16

Invention: **HEDGEHOG SIGNALING PATHWAYS, COMPOSITIONS AND USES RELATED THERETO**

Address to:

Assistant Commissioner for Patents
Washington, D.C. 20231

Transmitted herewith are:

16 sheets of formal drawing(s) for this application.

Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c)
on the reverse side of the drawing.



Signature

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Reg. No. 44,735
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Patent Group
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Boston, Massachusetts 02110

Dated: November 20, 2001

I certify that this document and attached formal drawings
are being deposited on 11/20/01 with the
U.S. Postal Service as first class mail under 37 C.F.R. 1.8
and addressed to the Assistant Commissioner for Patents,
Washington, D.C., 20231.



Signature of Person Mailing Correspondence

Karen DiR cc

Typed or Printed Name of Person Mailing Correspondence

1/16

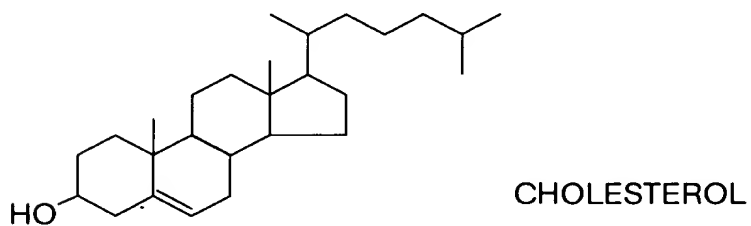
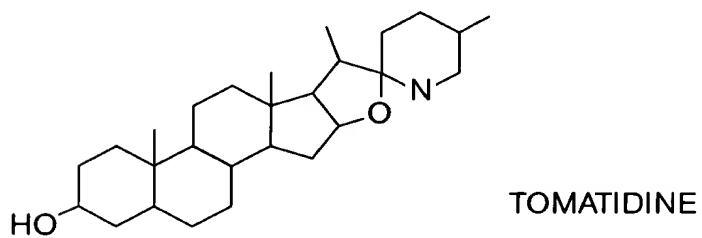
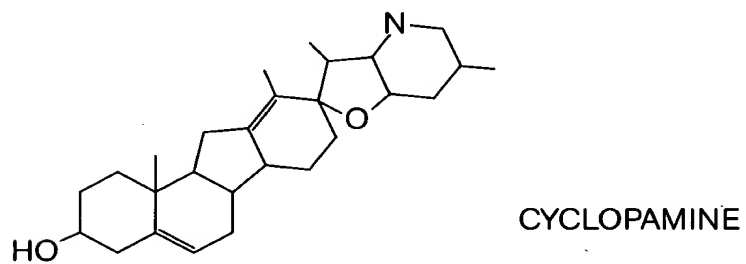
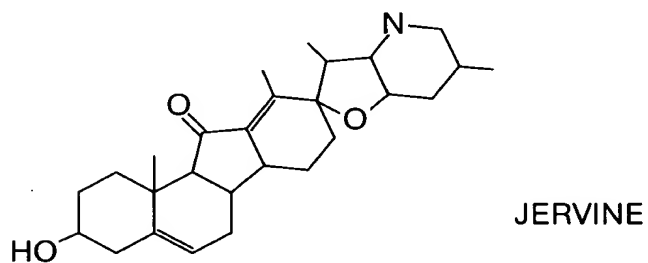
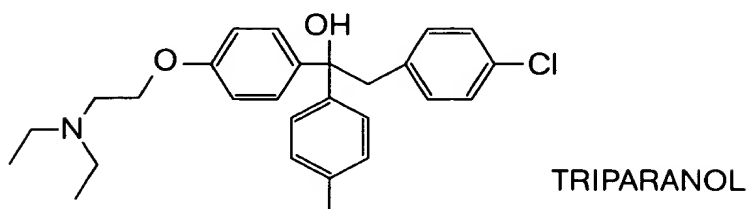
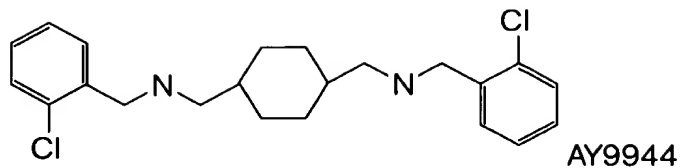


Fig. 1



Fig. 2A



Fig. 2B



Fig. 2C



Fig. 2D

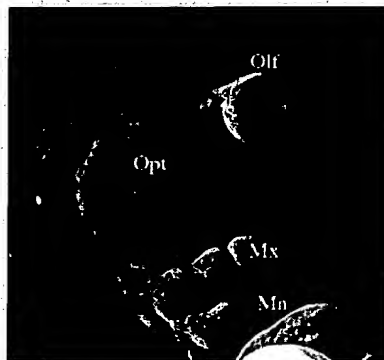


Fig. 2E

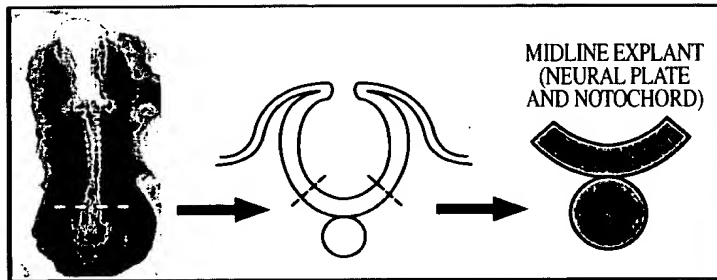


Fig. 3A



Fig. 3B



Fig. 3C

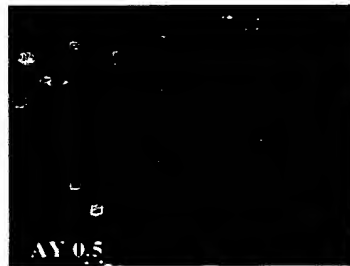


Fig. 3D

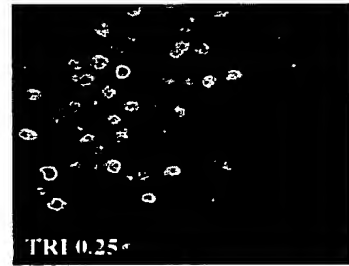


Fig. 3E

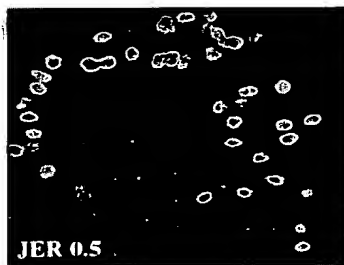


Fig. 3F

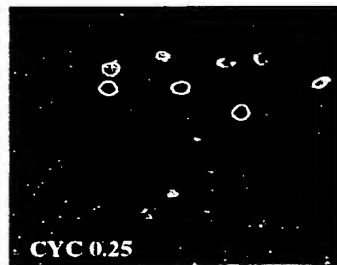


Fig. 3G

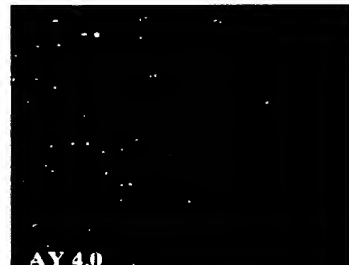


Fig. 3H



Fig. 3I



Fig. 3J



Fig. 3K

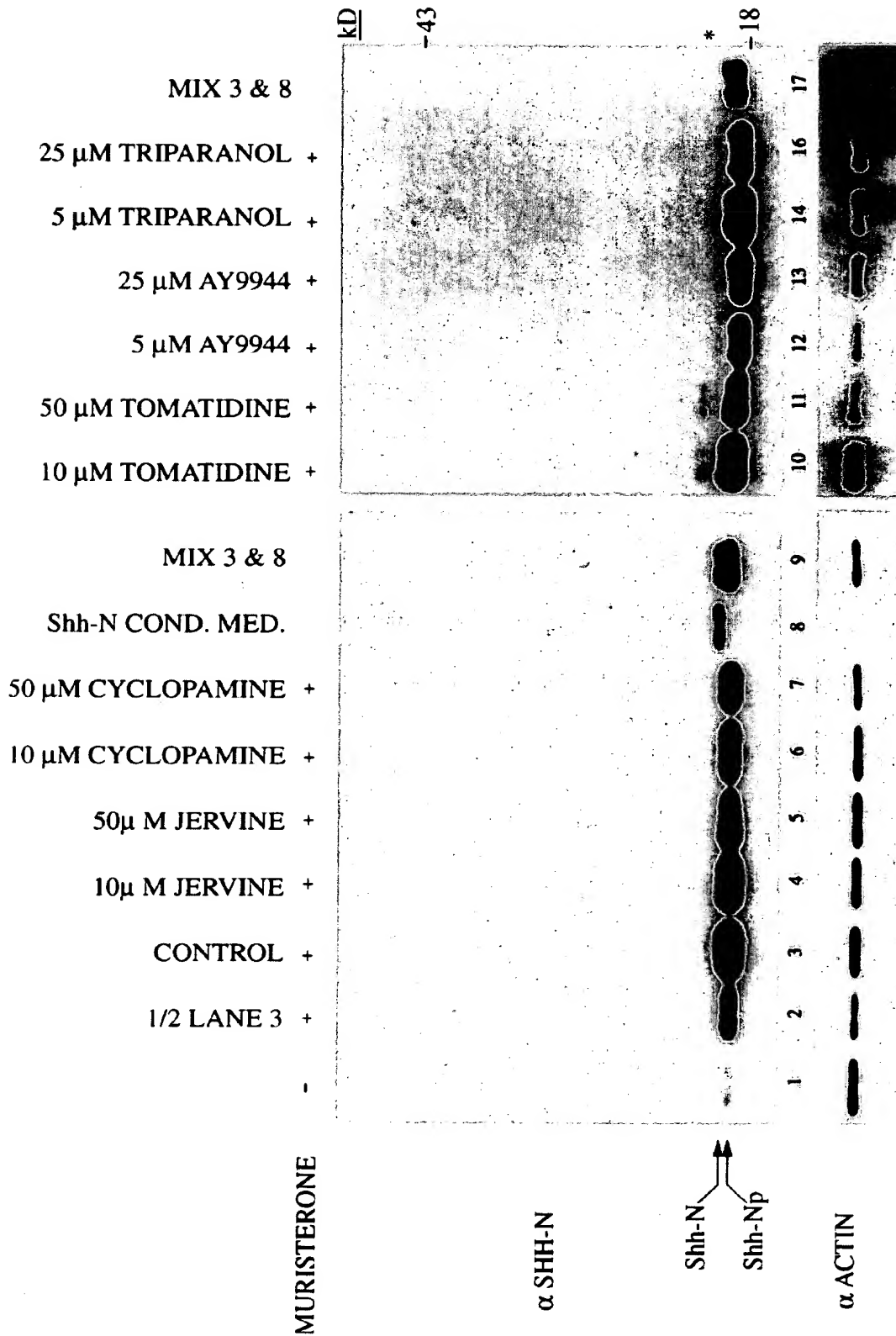


Fig. 4

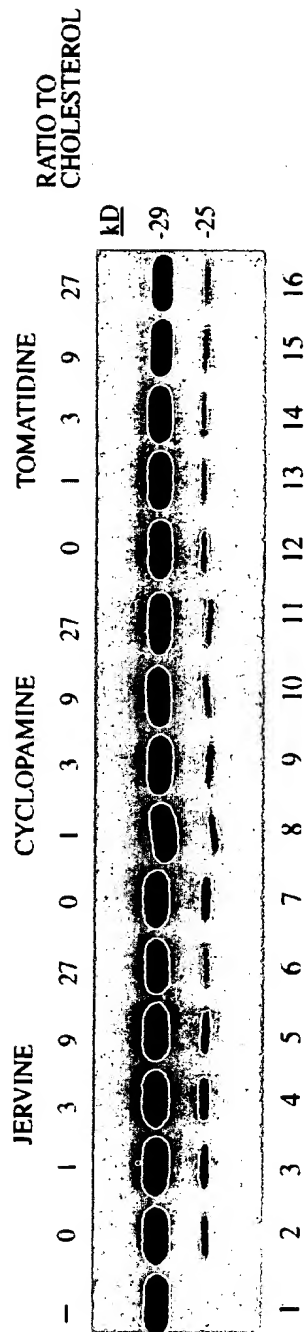


Fig. 5A

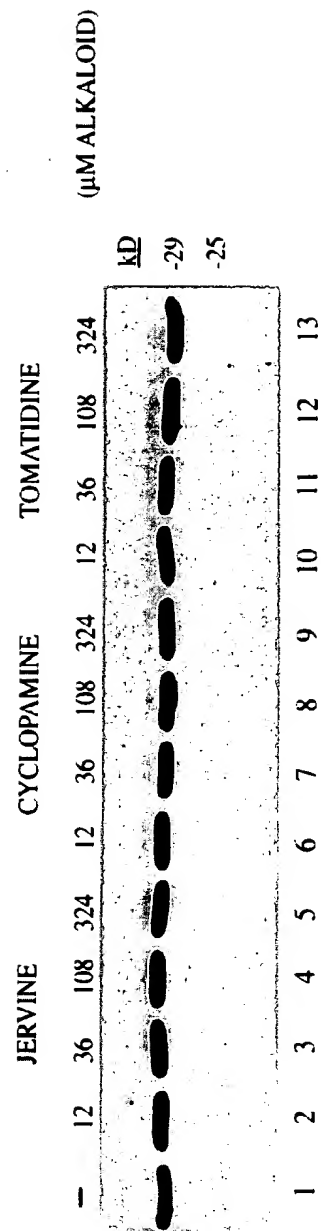


Fig. 5B

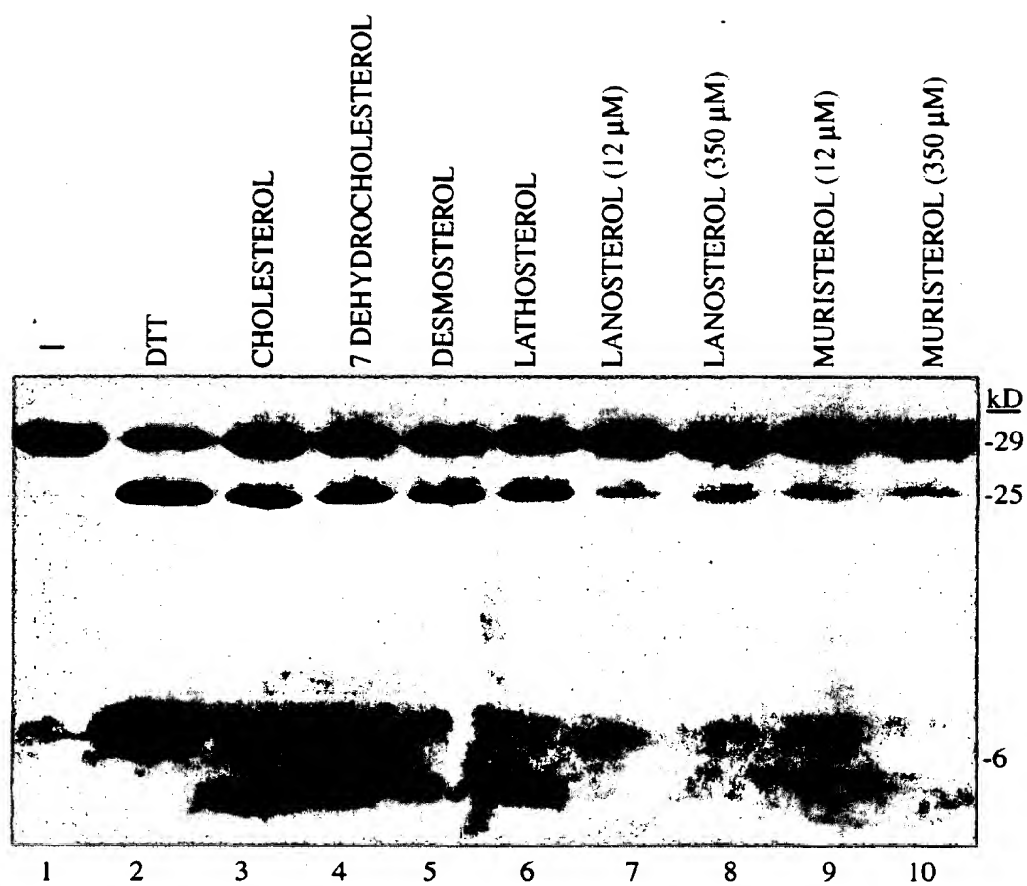


Fig. 5C

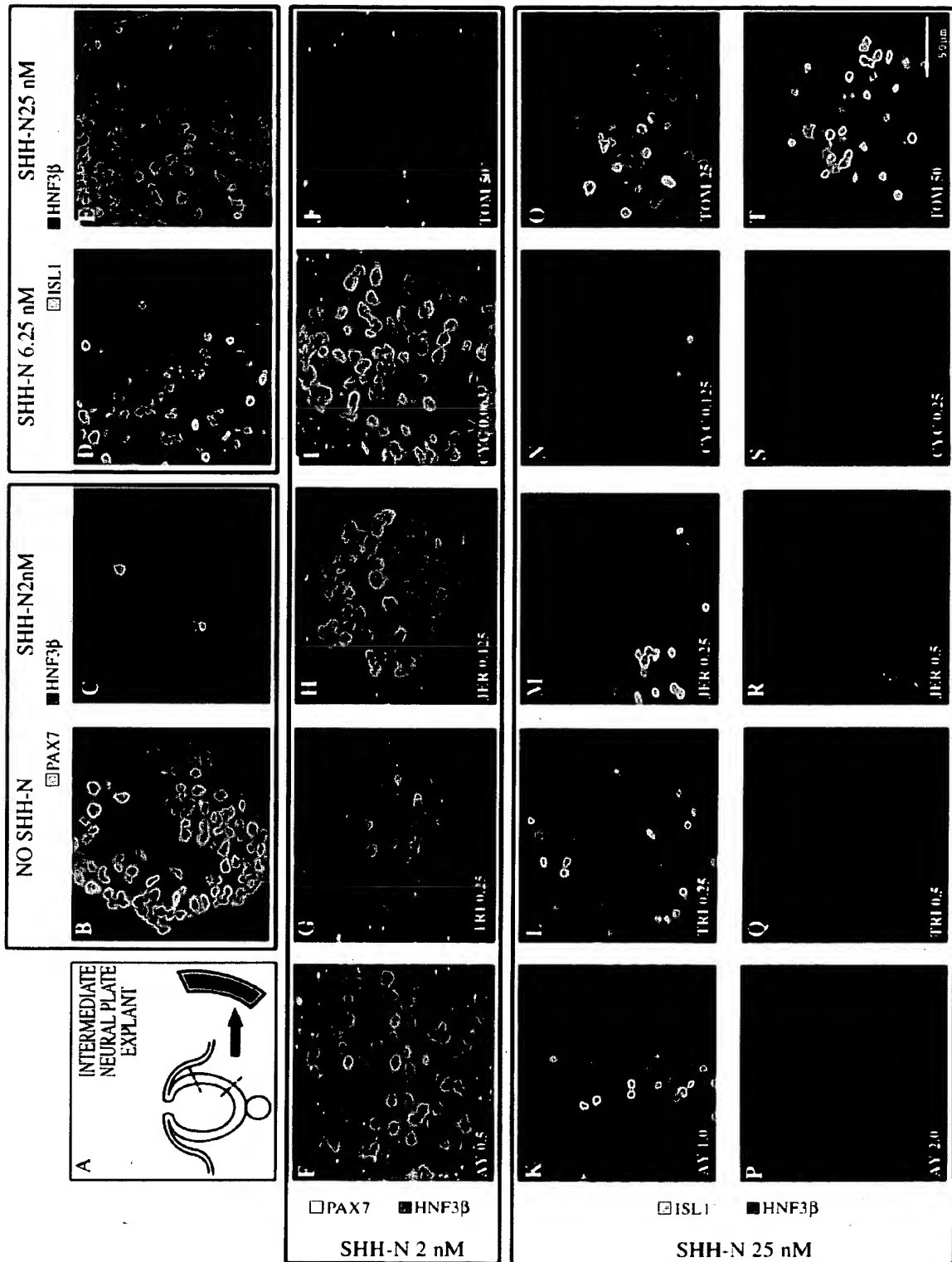


Fig. 6 (A-T)

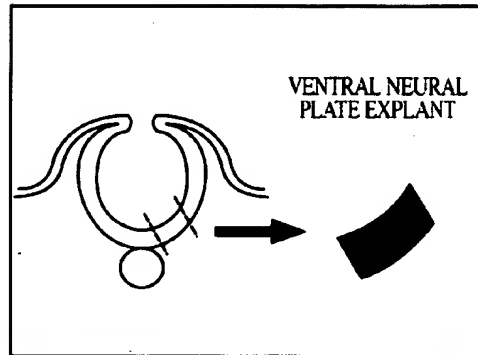


Fig. 7A



Fig. 7B

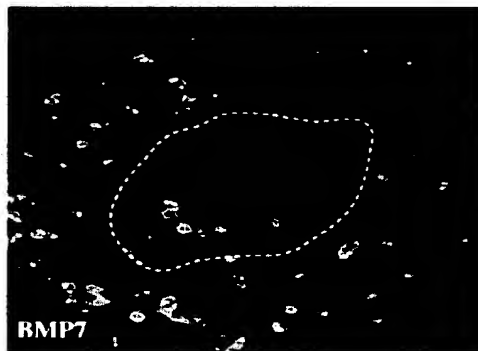


Fig. 7C

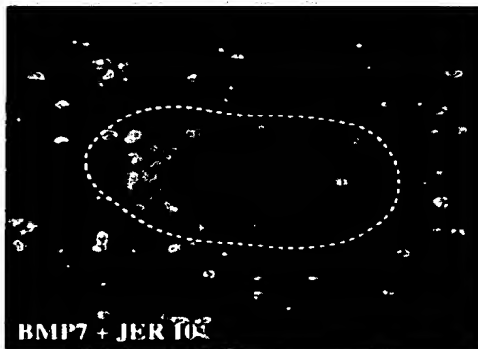


Fig. 7D

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Control



Fig. 8A

Shh $-/-$

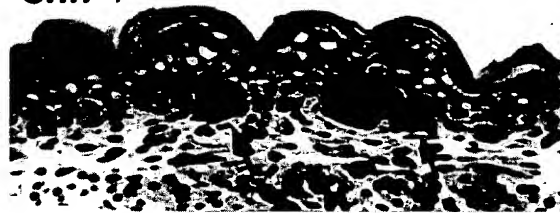


Fig. 8B

Control

Gli1

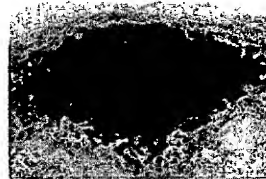


Fig. 8C

Shh $-/-$

Gli1

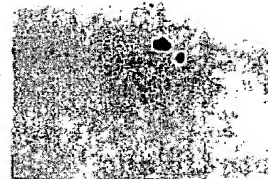


Fig. 8D

Control

Ptc1

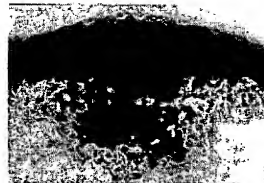


Fig. 8E

Shh $-/-$

Ptc1



Fig. 8F

Control

BMP-4



Fig. 8G

Shh $-/-$

BMP-4

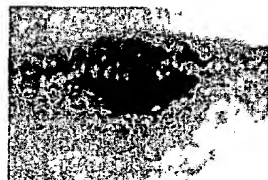


Fig. 8H

Control

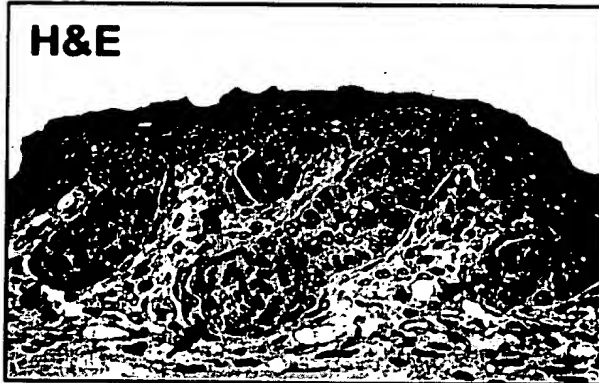


Fig. 9A

Shh -/-

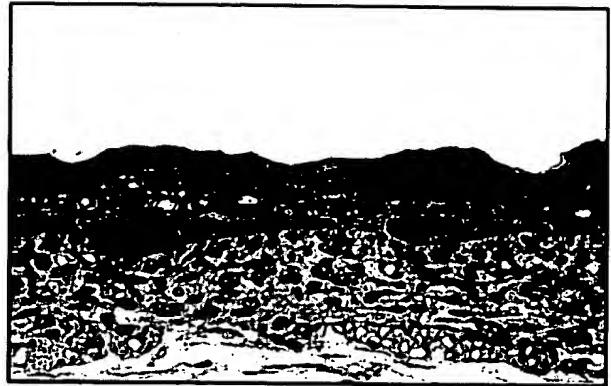


Fig. 9B

Control



Fig. 9C

Shh -/-

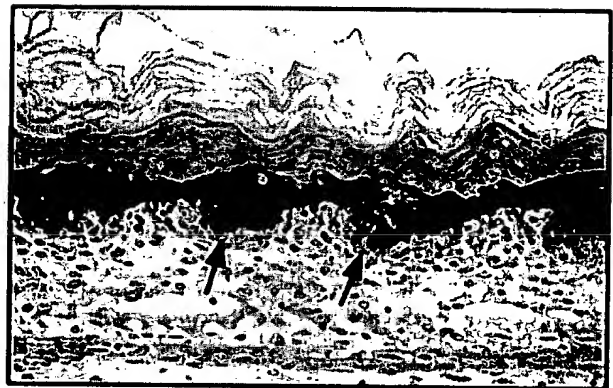


Fig. 9D

Control

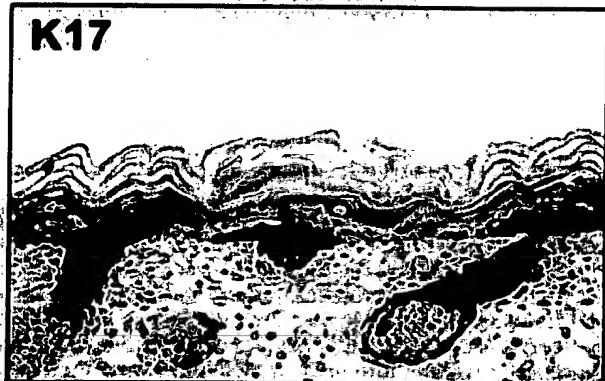


Fig. 9E

Shh -/-

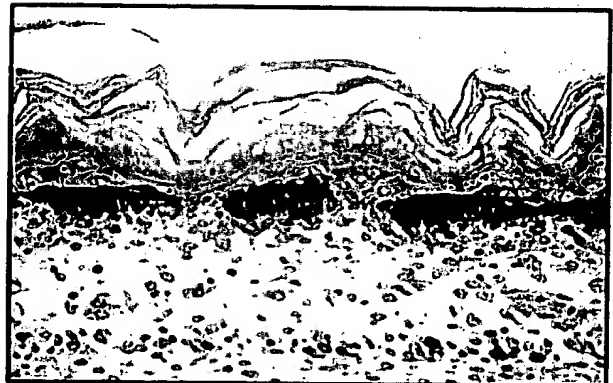


Fig. 9F

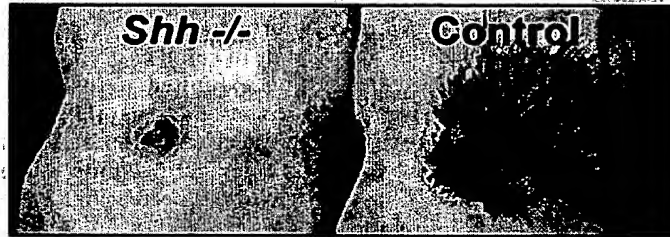


Fig. 10A

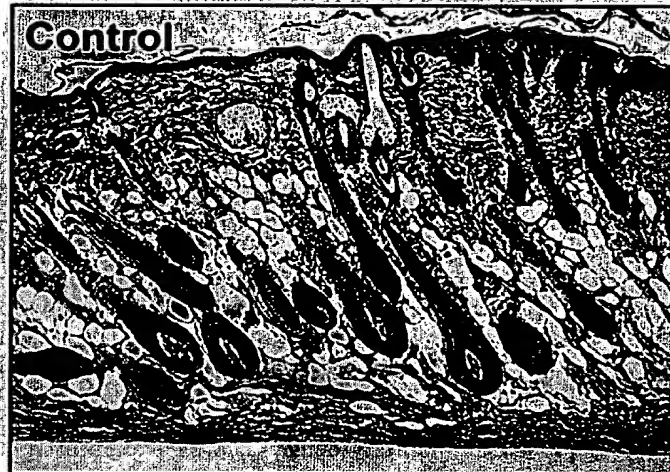


Fig. 10B

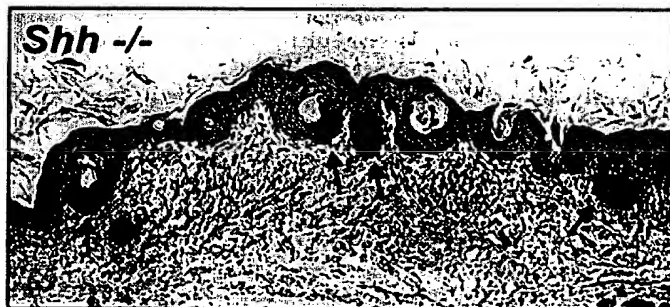


Fig. 10C

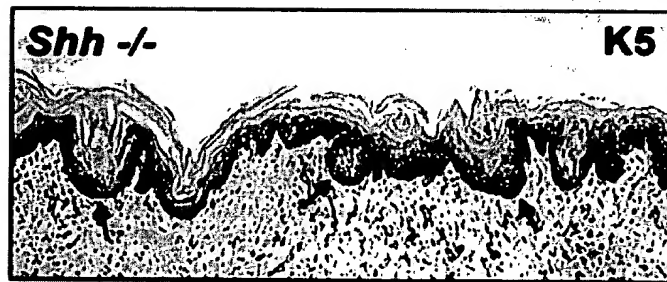


Fig. 10D

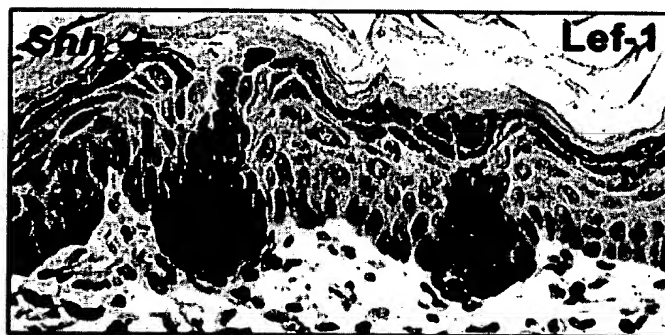


Fig. 10E

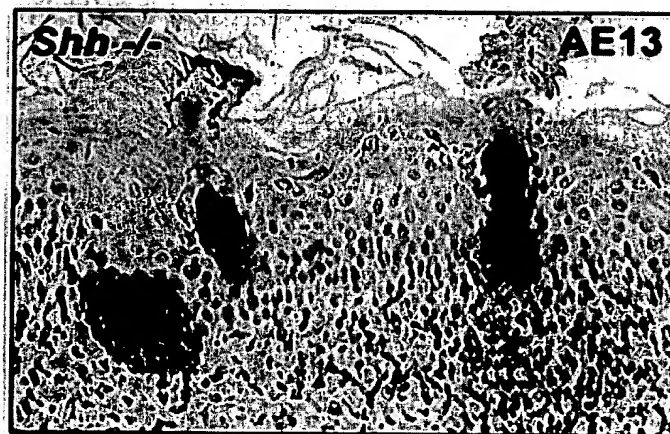


Fig. 10F

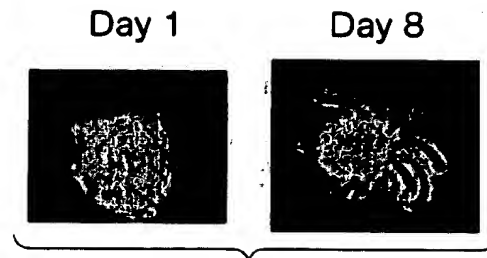
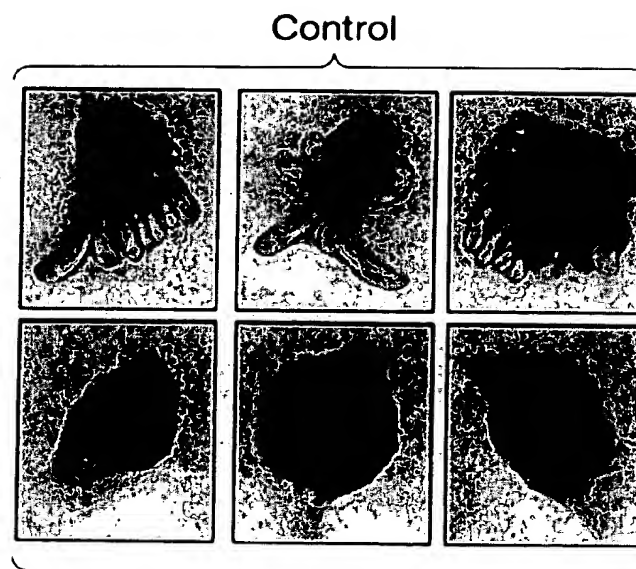


Fig. 11A



Fig. 11B



Cyclopamine

Fig. 11C

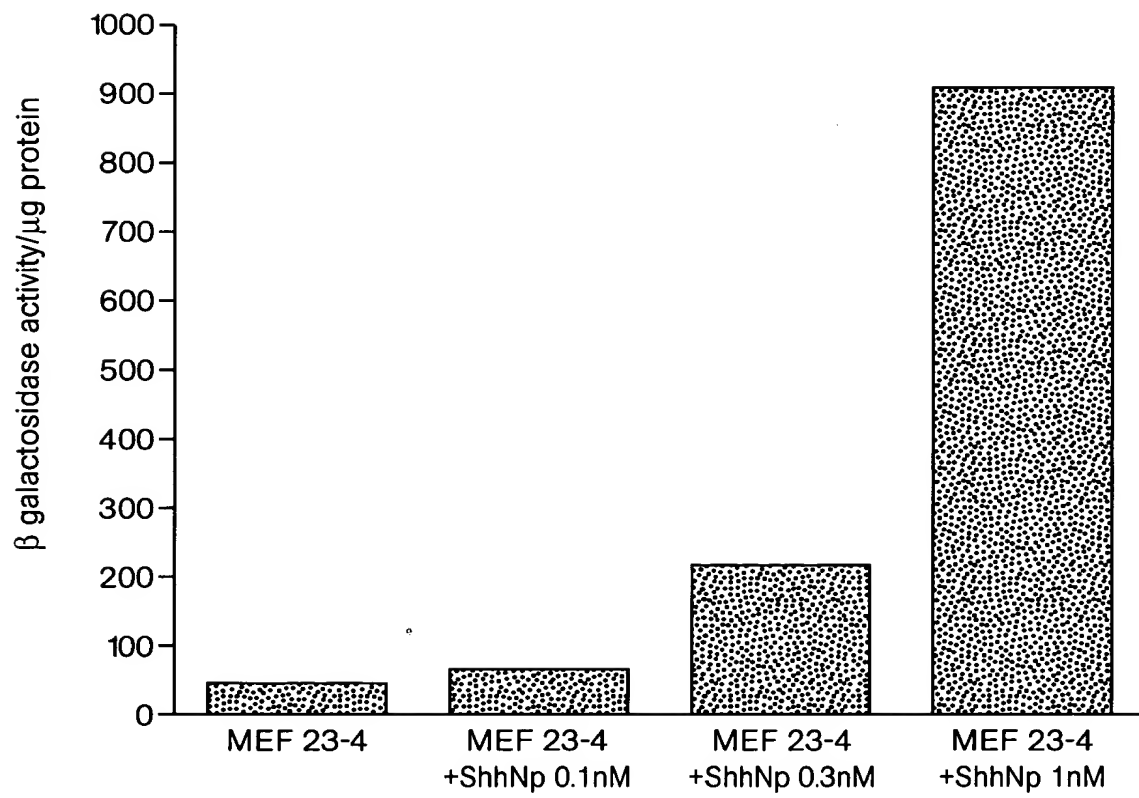


Fig. 12

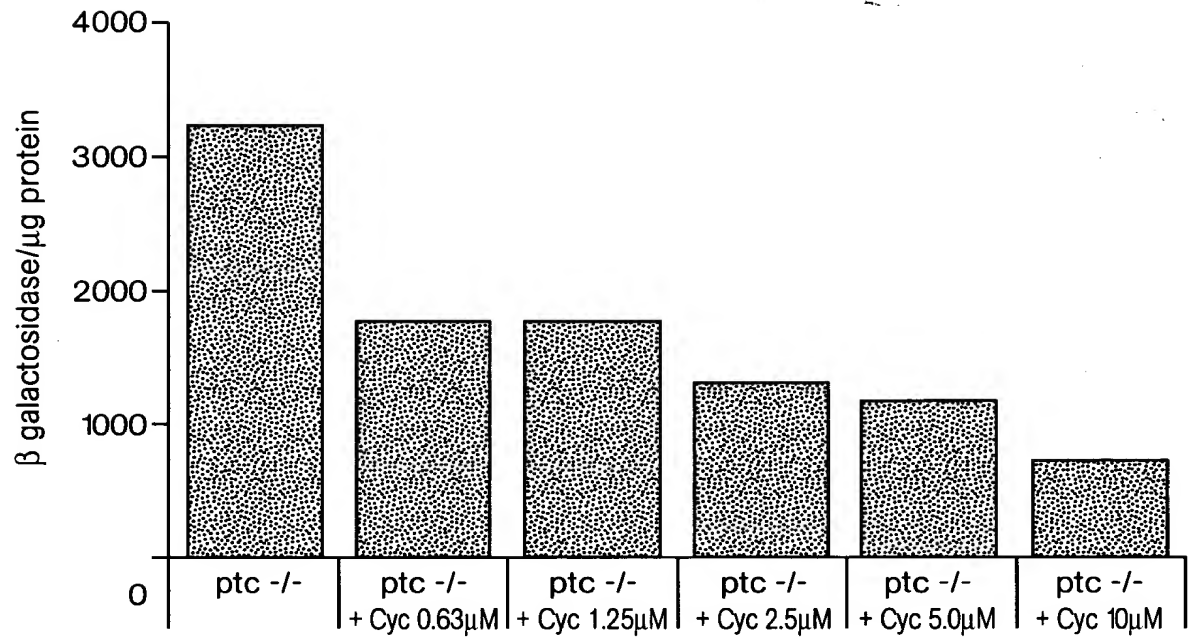


Fig. 13

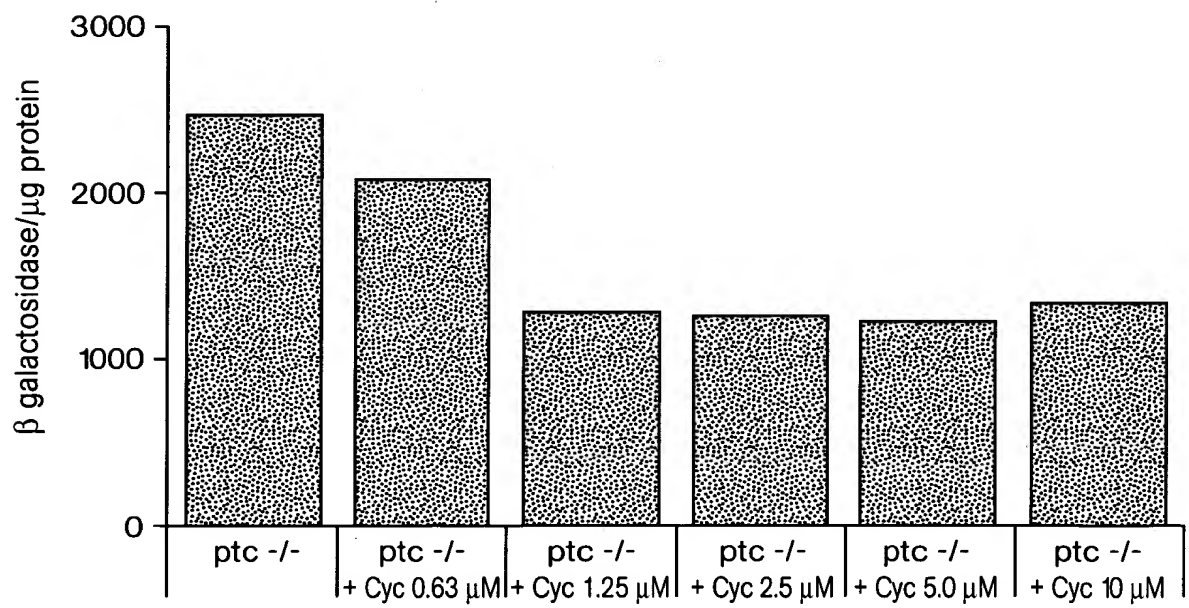


Fig. 14

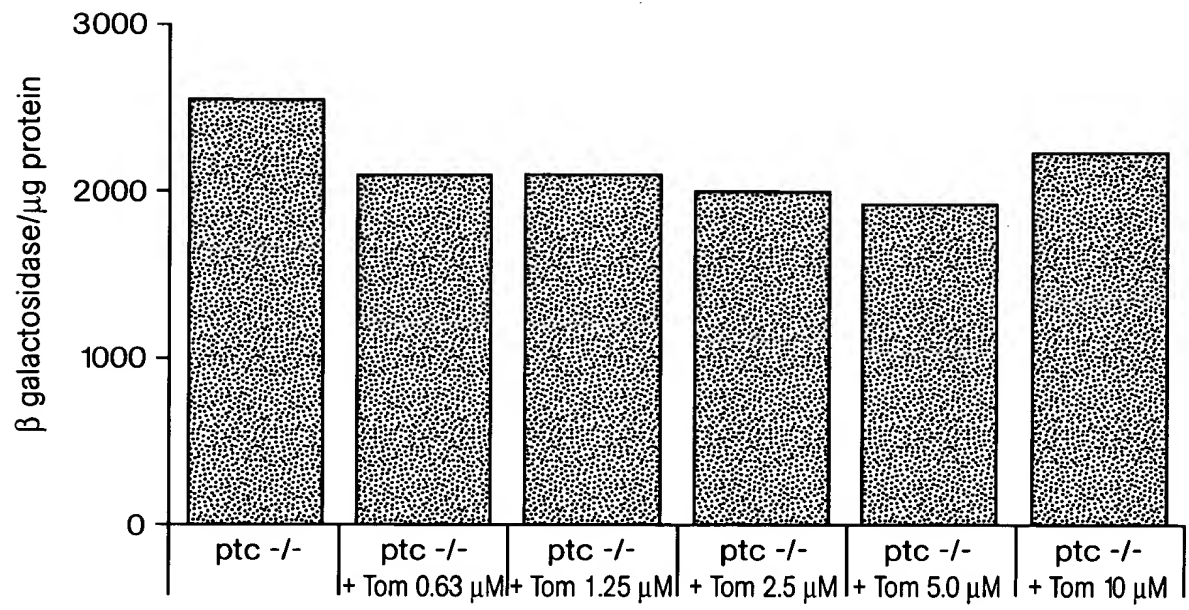


Fig. 15